long time ketone bodies had been looked upon either as waste products of fat metabolism (because they appeared especially in the urine) or as intermediates of fat degradation which could not be burned in the absence of utilizable carbohydrate. Only from about 1960 onwards it was generally recognised that ketone bodies are a source of energy when burnable carbohydrate is short in supply (though the roots of this concept go back to the nineteen twenties). The book gives an excellent survey of the modern development and an up-to-date picture of the problems at present under investigation. Metabolism, enzymic mechanisms and regulation are covered. The standard is high throughout . To those working in the field and to those who wish to familiarize themselves with the present state, the book will prove very valuable, though it is a pity that more than two years have elapsed between the date of the symposium and the publication.

H. A. Krebs

Pyridine Nucleotide-Dependent Dehydrogenases

Edited by H. Sund
Walter de Gruyter; Berlin, New York, 1977
xv + 513 pages. DM 155.–

Over the past decade there have come into being a series of international 'clubs' devoted to specialised topics within biochemistry which meet on a more or less irregular basis. The proceedings of many of such specialised 'clubs' are now enshrined for posterity in the form of publications such as that reviewed here which is the record of the second meeting of the 'dehydrogenase club', or as more elegantly entitled the proceedings of the Second International Symposium on Pyridine Nucleotide-Dependent Dehydrogenases, held at the University of Konstanz in March 1977. As Dr Veeger points out in his concluding remarks it serves as a forum for the presentation of 'our latest results and newest ideas' for workers in the field of pyridine nucleotide-dependent dehydrogenases. While there may be some value in recording current thinking in the hope (usually vain) that those who follow will learn from it I am in general dubious about ventures of this type. The 'dehydrogenase club' is a pretty restricted one as is apparent from the articles included here and not truly multi-disciplinary unless one applies this term to a gathering of enzymologists, chemists and X-ray crystallographers, in which the latter are clearly at the present making most of the running. Furthermore few of the articles represent an attempt to synthesise and evaluate. In most cases they are concerned with the factual reporting of new data most of which will be likely to appear in primary journal articles if they have not already done so. In this respect the imposition of a uniform maximal length to the articles which is an obvious feature of the volume was probably not helpful since such a restriction in length may well inhibit the discussion of interesting ideas which arise from the data obtained. Although the inclusion of 'discussion' mitigates this to some extent the value of this latter is lessened since it is made clear in the preface that they represent edited comments (? with the warts removed!).

Whatever the problems of the volume as a whole there are of course individual articles of considerable interest to a more general audience. For example, Mosbach discusses the various applications of affinity chromatography using general ligands (although a more comprehensive article on this topic by the same author can be found in volume 48 of Advances in Enzymology), while another article by the same author considers the uses of immobilisation techniques in examination of subunit catalytic activity in oligomeric enzymes. Here the discussion is valuable since it makes clear the controversial nature of the approach and its possible problems. The article by Perham is also valuable in illustrating the uses of amidination as

a structural probe, and that by Rossman and his co-workers as a discussion of the fine structural relationships between various dehydrogenases. However most of the remaining articles do not seem likely to be of general interest. I am sure that workers with a direct interest in dehydrogenases will find the volume of value but I cannot see that it will be of much interest to those outside this rather restricted field especially at the price which seems quite exorbitant. Since the articles which now constitute this volume were precirculated to participants it would seem more appropriate that a mechanism should be found for making these also available to other interested workers for a small fee rather than by publishing them in a book whose price will prohibit its purchase by all except the most lavishly endowed.

M. C. Scrutton

Fatty Acids and Glycerides

Handbook of Lipid Research: Volume 1

Edited by Arnis Kuksis
Plenum; London, New York, 1978
xvii + 469 pages. $42.00, £22.05

This is the first volume of a new series of books entitled *Handbook of Lipid Research* under the general editorship of Donald J. Hanahan. Volume 2 (1978; H. F. de Luca, ed), which will deal with fat-soluble vitamins, will be followed by further volumes on phospholipids, spingolipids, sterols and steroids 'and then on to the more biological facets of lipids' (to quote the General Editor).

The first part of this book consists of five chapters dealing with separation and analytical techniques under the following headings.

1. Separation and determination of structure of fatty acids.
2. Synthesis and analysis of stable and radiolabelled fatty acids.
3. Separation and determination of structure of acylgycerols and their ether analogues.
4. Stereospecific analysis of triacylglycerols.
5. Stereospecific synthesis of enantiomeric acylglycerols.

These represent a monumental catalogue of laboratory techniques available to the lipid chemist/biochemist. They complement and extend earlier works such as Kate's 'Techniques in lipidology: Isolation, analysis and identification of lipids' (1972) and Christie's 'Lipid analysis' (1973), although the majority of references in the present work only go up to 1976. Precisely because of its wealth of detail, this handbook may contain too much information for the general biochemist, who may prefer less specialised monographs.

Chapter 6 (Metabolic studies with fatty acids and acylglycerols) is quite different. It attempts to review the main papers on the biosynthesis of phosphatidic acid, and di- and triacylglycerols and on the nutritional, hormonal and pharmacological factors affecting their syntheses. It ends with a section on the enzymatic lipolysis of acylglycerols. This attempt is out of place in a handbook of this type since these topics are well covered in a plethora of other reviews. The papers referred to are mainly from the sixties and early seventies, which gives a feeling of déja vu. Inevitably, the most exciting advances have taken place more recently.

The next chapter, which deals with the composition of selected dietary fats and oils, is inevitably orientated towards readers in the food industry especially those in the USA. (There is a notable change in lipid nomenclature in this section.) The last chapter reviews the fatty acid composition of glycero-